Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) An internal combustion engine comprising:

an intake valve; and

a variable valve actuation device that is capable of variably controlling lift of the intake valve so as to change an amount of opening of the intake valve, wherein

the variable valve actuation device is adapted to:

calculate a first estimated value of an amount of intake air from a first parameter regarding an operation state of the engine at a time of opening the intake valve;

calculate a second estimated value of the amount of intake air from a second parameter regarding the operation state of the engine at a time of closing the intake valve; and

calculate an actual amount of intake air based on equation (1), where:

equation (1) is: $Ga = Gao + (Gac - Gao) \times K$,

Ga is the actual amount of intake air,

Gao is the first estimated value,

Gac is the second estimated value, and

K is a weighting factor~~based on the first estimated value and the second estimated value~~.

2. (Currently Amended) An internal combustion engine comprising:

an intake valve; and

a variable valve actuation device that is capable of variably controlling lift of the intake valve so as to change an amount of opening of the intake valve, wherein

the variable valve actuation device is adapted to:

calculate a first estimated value of an amount of intake air from a first parameter regarding an operation state of the engine at a time of opening the intake valve;

calculate a second estimated value of the amount of intake air from a second parameter regarding the operation state of the engine at a time of closing the intake valve;

calculate a weighting factor that indicates a weight of the estimated values of the amount of intake air on the actual amount of intake air; and

calculate the actual amount of intake air based on the first estimated value, the second estimated value and the weighting factor,

wherein the weighting factor is based on at least one weighting sub-factor that is based on a change in one of a current set amount of opening of the intake valve, an opening timing of the intake valve, a closing timing of the intake valve, a current intake pressure, and a current engine rotation speed, from the time of opening the intake valve to the time of closing the intake valve.

3. (Cancelled)

4. (Currently Amended) The internal combustion engine according to claim ~~3~~2, wherein the first parameter and the second parameter regarding the operation state of the engine compriseccomprises an amount of change in a working angle of the intake valve.

5. (Currently Amended) The internal combustion engine according to claim ~~3~~2, wherein the first parameter and the second parameter regarding the operation state of the engine compriseccomprises an amount of change in a maximum lift of the intake valve.

6. (Currently Amended) The internal combustion engine according to claim ~~3~~2, wherein the first parameter and the second parameter regarding the operation state of the engine compriseccomprises an amount of change in closing timing of the intake valve.

7. (Currently Amended) The internal combustion engine according to claim ~~3~~2, wherein the first parameter and the second parameter regarding the operation state of the engine comprise~~comprises~~ an amount of change in intake pressure.

8. (Currently Amended) A method for calculating intake amount for an internal combustion engine including an intake valve and a variable valve actuation device that is capable of variably controlling lift of the intake valve so as to change an amount of opening of the intake valve, the method comprising the steps of:

calculating a first estimated value of an amount of intake air from a first parameter regarding an operation state of the engine at a time of opening the intake valve;

calculating a second estimated value of the amount of intake air from a second parameter regarding the operation state of the engine at a time of closing the intake valve; and

calculating an actual amount of intake air based on the first estimated value and the second estimated value based on equation (1), where:

equation (1) is: $Ga = Gao + (Gac - Gao) \times K$,

Ga is the actual amount of intake air,

Gao is the first estimated value,

Gac is the second estimated value, and

K is a weighting factor.

9. (Currently Amended) A method for calculating intake amount for an internal combustion engine including an intake valve and a variable valve actuation device that is capable of variably controlling lift of the intake valve so as to change an amount of opening of the intake valve, the method comprising the steps of:

calculating a first estimated value of an amount of intake air from a first parameter regarding an operation state of the engine at a time of opening the intake valve;

calculating a second estimated value of the amount of intake air from a second parameter regarding the operation state of the engine at a time of closing the intake valve;

calculating a weighting factor that indicates a weight of the estimated values of the amount of intake air on the actual amount of intake air; and

calculating the actual amount of intake air based on the first estimated value, the second estimated value and the weighting factor,

wherein the weighting factor is based on at least one weighting sub-factor that is based on a change in at least one of a current set amount of opening of the intake valve, an opening timing of the intake valve, a closing timing of the intake valve, a current intake pressure, and a current engine rotation speed, from the time of opening the intake valve to the time of closing the intake valve.

10. (New) The internal combustion engine according to claim 1, wherein the first parameter and the second parameter are each at least one of a current set amount of opening of the intake valve, an opening timing of the intake valve, a closing timing of the intake valve, a current intake pressure, and a current engine rotation speed.

11. (New) The internal combustion engine according to claim 1, wherein:

K is based on a change of a third parameter regarding an operation state of the engine from the time of opening the intake valve to the time of closing the intake valve, and

the third parameter is based on a change in at least one of a current set amount of opening of the intake valve, an opening timing of the intake valve, a closing timing of the intake valve, a current intake pressure, and a current engine rotation speed, from the time of opening the intake valve to the time of closing the intake valve.

12. (New) The method according to claim 8, wherein the first parameter and the second parameter are each at least one of a current set amount of opening of the intake valve,

an opening timing of the intake valve, a closing timing of the intake valve, a current intake pressure, and a current engine rotation speed.

13. (New) The method according to claim 8, wherein:

K is based on a change of a third parameter regarding an operation state of the engine from the time of opening the intake valve to the time of closing the intake valve, and

the third parameter is based on a change in at least one of a current set amount of opening of the intake valve, an opening timing of the intake valve, a closing timing of the intake valve, a current intake pressure, and a current engine rotation speed, from the time of opening the intake valve to the time of closing the intake valve.

14. (New) The internal combustion engine according to claim 2, wherein the first parameter and the second parameter are each at least one of a current set amount of opening of the intake valve, an opening timing of the intake valve, a closing timing of the intake valve, a current intake pressure, and a current engine rotation speed.

15. (New) The method according to claim 9, wherein the first parameter and the second parameter are each at least one of a current set amount of opening of the intake valve, an opening timing of the intake valve, a closing timing of the intake valve, a current intake pressure, and a current engine rotation speed.